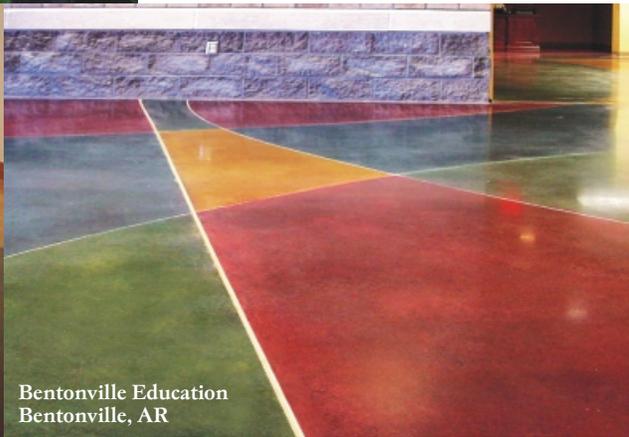




Gentex Corporation  
Zeeland, MI



Bentonville Education  
Bentonville, AR



Dibles Hummer  
Manchester, NH

L&M's FGS/PermaShine Shows Why

# Polished Concrete Can Be GREEN

**“Concrete is a thing of beauty, isn't it? Just look at those floors!”**

Greg Schwietz's computer monitor displays a virtual tour of polished concrete floors. Shots from office areas, schools, arenas, warehouses and industrial buildings scroll by. According to their owners, these floors look great while they deliver significant savings in maintenance costs and the safety factor of a National Floor Safety Institute-certified “High Traction” floor.

Schwietz, president of L&M Construction Chemicals, is reviewing recent installations of L&M's FGS/PermaShine system. There's a Hummer perfectly reflected on a showroom floor, then a fitness center with a floor that looks like shiny terra cotta. Next is a New York grocery store with floor colors that positively pop.

Schwietz says, “Concrete used to be the 'ugly stepsister' in floor coverings. No one really attached glamour to concrete until equipment

manufacturers refined their concrete surface preparation equipment in the mid and late 90's. When that was in place, all sorts of innovations and adaptations quickly followed—including our FGS/PermaShine process.”

Schwietz's monitor shows another FGS floor that highlights the best features of classic terrazzo: texture and polish. “You see the natural beauty of the aggregate in this floor. You also see the sheen. The polished concrete of today employs the same basic process as terrazzo placement: natural aggregate and cement is cured, ground and polished into a smooth surface.

“Polished concrete is the new terrazzo, only at a significant cost savings. Our FGS/PermaShine system brings a process that works for new floors and will refurbish old floors. Often the full operation can be done quickly and at night, with minimal inconvenience to the facility operations. Colors can be integrated into the floors.

“A durable, long lasting, attractive polished concrete floor is a value-loaded option within the reach of almost any facility today.”

**“Polished concrete is the new terrazzo, only at a significant cost savings.”**



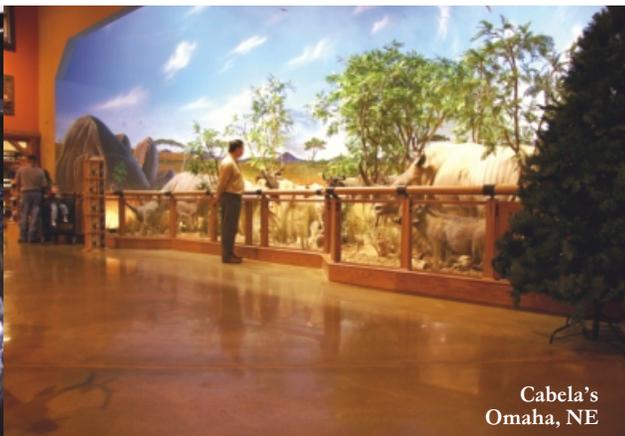
Fuse Fitness  
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**FGS**  
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The new face of polished concrete  
[www.fgs-permashine.com](http://www.fgs-permashine.com)





Dobles Hummer  
Manchester, NH



Cabela's  
Omaha, NE



Price Choppers  
New York

## Surprising response from “green” architects and builders

But one of the most encouraging signs that FGS/PermaShine is a product whose time is here is the growing response from professionals who seek to “build green.” These architects, builders and contractors seek the best systems and products available for the environment—and L&M’s FGS/PermaShine booth was a favorite among those who attended the November 2006 **Greenbuild Convention** in Denver.

“The response at Greenbuild was nearly overwhelming,” Schwietz comments. “We talked with hundreds of contractors, developers, architects and specifiers over the three days of the convention.

“It seemed that everyone we talked with knew why they wanted to ‘build green.’ We were grilled about everything from the basics of the FGS system to the chemical reactions that occurred between our dyes and densifiers and the concrete. The people who attended Greenbuild really knew their stuff.

“The great news for us is that FGS/PermaShine is, in fact, one of the best ‘green’ floor systems around.”

## The “green” advantages of FGS

“FGS/PermaShine is a positive decision for the environment,” Schwietz says. “Restoring an existing concrete floor reduces the environmental impact from new construction or demolition. Both the thermal mass of concrete and the reflectivity of an FGS/PermaShine floor save energy. Mechanically and chemically, the FGS process minimizes exposure to hazardous components and pollution.

“All this means our clients can more easily qualify their buildings for certification with the Leadership in Energy and Environmental Design (LEED®) Green Building Rating System. The Cardel Recreation Center is one recent example of that. In fact, I got to meet the project manager for that installation at Greenbuild.”

The Cardel Recreation Center is the first City of Calgary LEED Gold Accredited building. Dennis O’Byrne, Operations Manager for the Center, said, “The FGS process has performed very well for us.



### LEED GOLD

The Cardel Recreation Center is the first City of Calgary LEED Gold Accredited building.

“The FGS process has performed very well for us. Even when the floor becomes wet from some of the activities, it retains its non-slip qualities.”

—Dennis O’Byrne,  
Operations Manager

For more about the Cardel Recreation Center, see *Concrete News*, Summer 2006

Even when the floor becomes wet from some of the activities, it retains its non-slip qualities. I’m also happy with the integral terra cotta color in certain areas. It really adds to the overall beauty and functionality of the facility.”

## The advance of FGS “dry grinding”

The FGS/PermaShine system brings a patented “dry grind” process (US Patent #647067) to smooth and polish the floor surface. The number of grinding passes is determined by the condition of the floor and the desired outcome.

Historically, stone floors and terrazzo concrete have been ground “wet.” This process produces a significant amount of wet paste (“slurry”) during the coarser grinding steps that can slow the progress of a job—and then requires proper disposal.

In contrast, the FGS/PermaShine system uses vacuum air purification technology to collect the dust during the dry abrasive smoothing process. Virtually all airborne dust is eliminated. The dust residue, which is collected in a disposable plastic bag, is safe for disposal in municipal landfills.

The advantages of dry grind over wet grind were not lost on the Greenbuild professionals, either. One architect at Greenbuild commented, “The wet grind option simply won’t fly with my clients. In my area, there are big issues with disposing any particulates suspended in liquid.”

“The FGS dry grinding process inherently minimizes downtime,” Schwietz noted. “The atmosphere stays virtually dust-free and there’s no slippery mess to deal with. It saves everyone time, money, and hassle.”

## Good chemistry for durability, savings and shine protection

After the grinding and polishing steps are completed, the surface of the floor, while appearing very shiny, is also, however, very porous. In order to protect its surface, a newly polished concrete floor must be chemically hardened. Otherwise, the polished shine will soon disappear and the floor will quickly begin to show wear again.

L&M’s FGS Hardener Plus, an odorless and non-toxic solution, hardens and densifies polished concrete. It chemically reacts with calcium hydroxide and calcium carbonate to form strong, durable calcium silicate hydrate (CSH).

“CSH is the crystalline formation that gives concrete its strength and wear resistance,” Schwietz says. “Independent tests prove that FGS Hardener Plus, in effect, chemically restores lost hardened cement paste removed during the grinding process. It then goes on to strengthen the floor surface to more than double its original abrasion resistance.

Continued on page 6 >>

This is an important benefit and value to the owner that makes FGS stand out, and means a much longer-term performance for owners of FGS-treated polished floors.

Schwietz adds, "That means less floor demolition and replacement—another plus for the environment."

## Easy maintenance means significant savings, year after year

Time and again, FGS clients comment on the ease and cost savings in maintaining their FGS floors. A simple comparison suggests why.

Vinyl floors depend on labor-intensive wax maintenance to keep them looking sharp. The regimen typically costs between \$1.20-\$1.50 per year per square foot. Over ten years, that adds up to \$120,000-\$150,000 per 10,000 square feet.

Epoxy or urethane coatings, while beautiful at first, tend to have a comparatively short life span. Frequent recoat applications can drive the cost of a coating to between \$20,000-\$80,000 for 10,000 square feet over ten years, before the everyday maintenance expenses of \$50,000 for the same period.

In contrast, the FGS/PermaShine maintenance system generally costs much less than 50 cents per square foot each year. And with a simple maintenance discipline, no reapplications are necessary. The cost per 10,000 square feet over 10 years is less than \$50,000—a savings over other floor treatments significant enough to catch the attention of FGS customers.

"Sometimes you pay a premium to be environmentally savvy," Schwietz notes, "But with FGS, you'll save money while being green. That is a genuine advantage of the FGS system."

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"...one of the newest, **greenest**, and most affordable flooring options available." —**BuildingGreen**

## Yes. You can be green and look great, too

FGS floors show well. So do the photographs of finished projects. Some of the Greenbuild professionals immediately assumed that the results, especially color on concrete floors, could only be the products of caustic, fume-laden chemicals.

"It was simply amazing to walk people through the color processes we use with FGS/PermaShine," Schwietz says. "We have a few options on the table, including our new FGS Vivid, to produce color in our floors. None of them introduce dangerous agents to the concrete or the environment. And the final product looks absolutely stunning, which is why so many architects at Greenbuild checked us out.

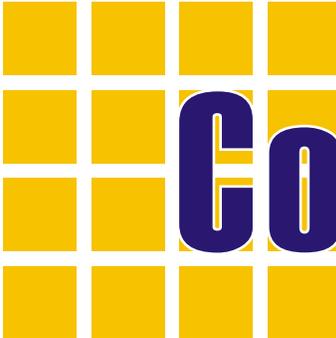
"The professionals we met at Greenbuild were just as excited about the long-term economy and high traction rating of FGS/PermaShine floors. But when we checked out 'green' according to their expectations, I think many of them were surprised. And we were thrilled.

"One big idea at Greenbuild was the need for everyone to become a better steward of the environment. L&M has worked hard from our beginning to deliver the most effective products on the market while keeping the process, people and property safe."



**For more, visit the NEW  
FGS/PermaShine website:  
[www.fgs-permashine.com](http://www.fgs-permashine.com)**

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